

AMENDED CLAIMS

[received by the International Bureau on 20 July 2005 (20.07.05);
original claims 1-15 replaced by amended claims 1-15 (4 pages)]

1. A running support system (2) for a vehicle (1), which includes first object detecting means (21) for detecting an object near a vehicle (1) using a radar; second object detecting means (22) for detecting an object near the vehicle (1) by performing image recognition based on an obtained image of an area near the vehicle (1); and running support means for supporting running of the vehicle (1), characterized in that a control condition for running support control (S15; S57) performed by the running support means is changed based on a combination of results of detection of the same object performed by the first object detecting means (21) and the second object detecting means (22).
2. The running support system (2) for a vehicle (1) according to claim 1, wherein a starting condition for the running support control (S15; S57) performed by the running support means is shifted to a suppression side in a case where an object has been detected by only one of the first object detecting means (21) and the second object detecting means (22), as compared to a case where an object has been detected by both the first object detecting means (21) and the second object detecting means (22).
3. A running support system (2) for a vehicle (1) according to claim 1, further including inattentive condition detecting means (28) for detecting whether a driver is performing inattentive driving, wherein a control condition for running support control (S15; S57) performed by the running support means is changed also based on an inattentive condition of the driver detected by the inattentive condition detecting means (28).
4. The running support system (2) for a vehicle (1) according to claim 3, wherein, when the same obstacle has been detected by both the first object detecting means (21) and the second object detecting means (22), and the inattentive condition detecting means (28) has determined that the driver is performing inattentive driving, a starting condition for the running support control (S15; S57) performed by the running support means is shifted to a promotion side, as compared to a case where the driver is not performing inattentive driving.

5. The running support system (2) for a vehicle (1) according to claim 4, wherein the running support means performs at least one of follow-up running control, adaptive cruise control, obstacle alarm control, and collision shock reducing control.
6. The running support system (2) for a vehicle (1) according to claim 3, wherein, when an obstacle, which has been detected by the first object detecting means (21), cannot be detected by the second object detecting means (22), and the inattentive condition detecting means (28) has determined that the driver is performing inattentive driving, a starting condition for the running support control (S15; S57) performed by the running support means is shifted to a promotion side, as compared to a case where the driver is not performing inattentive driving and the same obstacle has been detected by both the first object detecting means (21) and the second object detecting means (22).
7. The running support system (2) for a vehicle (1) according to claim 6, wherein shifting of the starting condition of the running support control (S15; S57), which is performed by the running support means, to the promotion side is performed by making an amount of shift of a starting condition for running support control (S15; S57), in which there is less necessity for high accuracy in detection of an obstacle in the lateral direction, larger than an amount of shift of a starting condition for running support control (S15; S57), in which there is greater necessity for high accuracy in detection of an obstacle in the lateral direction.
8. The running support system (2) for a vehicle (1) according to claim 3, wherein, when an obstacle, which has been detected by the first object detecting means (21), cannot be detected by the second object detecting means (22), and the inattentive condition detecting means (28) has determined that the driver is not performing inattentive driving, from among starting conditions for various types of running support control (S15; S57) performed by the running support means, a starting condition for running support control (S15; S57), in which there is greater necessity for high accuracy in detection of an obstacle in the lateral direction, is shifted to a suppression side.
9. The running support system (2) for a vehicle (1) according to claim 7 or 8, wherein

the running support control (S15; S57), in which there is less necessity for high accuracy in the detection of an obstacle in the lateral direction, is one of follow-up running control and adaptive cruise control, and the running support control (S15; S57), in which there is greater necessity for high accuracy in the detection of an obstacle in the lateral direction, is one of obstacle alarm control and collision shock reducing control.

10. The running support system (2) for a vehicle (1) according to claim 3, wherein the running support means is one of a follow-up running control device and an adaptive cruise control device, and when an obstacle, which has been detected by the second object detecting means (22), has not been detected by the first object detecting means (21), one of prohibition and interruption of one of the follow-up running control and the adaptive cruise control is performed.
11. The running support system (2) for a vehicle (1) according to claim 3, wherein the running support means is a collision shock reducing control device (23, 24, 25, 26, 27), and when an obstacle, which has been detected by the second object detecting means (22), has not been detected by the first object detecting means (21), start time for collision shock reducing control (23, 24, 25, 26, 27) is retarded as compared to a normal state.
12. The running support system (2) for a vehicle (1) according to claim 11, wherein, when the inattentive condition detecting means (28) has determined that the driver is performing inattentive driving, the start time for the collision shock reducing control (23, 24, 25, 26, 27) is retarded by a smaller amount than that in a case where it has been determined that the driver is not performing inattentive driving.
13. The running support system (2) for a vehicle (1) according to claim 3, wherein the running support means is a collision shock reducing control device (23, 24, 25, 26, 27), and when an obstacle, which has been detected by the second object detecting means (22), has not been detected by the first object detecting means (21), contents of collision shock reducing control (23, 24, 26, 26, 27) are changed to those of control for a case where a shock due to a collision is small as compared to a normal state.

14. The running support system (2) for a vehicle (1) according to claim 13, wherein the collision shock reducing control (23, 24, 25, 26, 27) is performed by one of means for minimizing an amount of deformation of the vehicle (1), means for securing restraint of a passenger, and means for changing a damping force of suspension means.
15. A running support system (2) for a vehicle (1) which performs one of follow-up running control and adaptive cruise control, and obstacle alarm control, characterized in that notification of operation limit of one of the follow-up running control and the adaptive cruise control is made before an obstacle alarm is generated by the obstacle alarm control.